

# 2016-17 South Australian Water Corporation **Annual Report**

FOR THE YEAR ENDING 30 JUNE 2017



Government of  
South Australia



SA Water



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# LETTER OF TRANSMITTAL

30 September 2017

The Honourable Ian Hunter MLC  
Minister for Water and the River Murray

Dear Minister

On behalf of the Board of SA Water, I am pleased to present the Corporation's Annual Report for the financial year ending 30 June 2017.

The report is submitted for your information and presentation to Parliament, in accordance with requirements of the *Public Corporations Act 1993* and the *Public Sector Act 2009*.

This report is verified to be accurate for the purposes of annual reporting to the Parliament of South Australia.

Yours sincerely



**Carolyn Pickles**  
Acting Chair



# CONTENTS

Message from the Chair	02	<b>Effective Governance</b>	<b>43</b>
Message from the Chief Executive	04	Legislation	43
		Key regulators	43
		The Board	43
<b>About SA Water</b>	<b>07</b>	Directors' interests and benefits	43
Our vision	07	Board Committees	44
Our values	07	Board attendance	44
Our organisation	07	Organisational structure	45
<b>Strategy: Prioritising our work to achieve our goals</b>	<b>09</b>	<b>Financial Performance</b>	<b>47</b>
		Financial performance summary	47
		Consultants	47
<b>Year in Review</b>	<b>10</b>	<b>Supplementary Reporting Items</b>	<b>49</b>
Customer experience	10	Fraud	49
Water security, water quality and sanitation	18	Strategies to control and prevent fraud	49
Environment	36	Whistleblowers disclosure	49
		Summary of complaints	49
<b>Our People</b>	<b>39</b>	Operations four year comparison data	50
Improving safety outcomes	39		
Growing capability	39		
Accountability	40		
Working towards reconciliation	40		
Executive employment	40		
Leading the way with pay equity	41		
Inclusion and Diversity Action Plan	41		



# MESSAGE FROM THE CHAIR



SA Water is an organisation with a 160 year history of providing clean, safe water and reliable sewerage services to South Australians. This responsibility drives the Board and the entire SA Water team to continuously improve what we do and to strive to be the service provider our customers expect and deserve. We understand the importance of world class services to the economic growth of South Australia and, equally importantly, to the quality of life of every South Australian.

The 2016-17 year was a time of positive change and initiative at SA Water. Working with Chief Executive Roch Cheroux, the Board has supported the new vision for the future – *world class water services for a better life* – and a strategy to achieve it. There is a positive energy at SA Water, with a clear direction for the future.

The year had many highlights. Initiatives to improve customer service delivery were prioritised, as were innovative capital works and improvement programs. The release of the mySAWater portal means customers have more convenient access, complemented by online and social media communication channels.

Technological improvements are also enhancing our ability to promptly respond to service interruptions and, in the future, to best utilise real-time information about the state of our network.

SA Water met its financial targets and worked with the Essential Services Commission of South Australia on our customer service performance standards and delivery of the commitments made in our Regulatory Business Proposal 2016 (RBP 2016). We also work closely with the Department of Health and the Environment Protection Authority to ensure we meet public health and environmental standards and expectations.

In all we do, safety remains our first priority. Our intention is that every team member returns home safely each day after work. The Board continue to look for ways to improve safety outcomes and we involve all staff in achieving this goal.

Providing essential services to 1.6 million customers spread across South Australia means the work SA Water undertakes is always diverse and, at times, extremely complex. The Board is proud of what the Corporation has achieved in 2016-17 and looks forward to working with the entire SA Water team to achieve even more in the coming year.

A handwritten signature in black ink, appearing to read 'Carolyn Pickles'.

**Carolyn Pickles**  
Acting Chair







# MESSAGE FROM THE CHIEF EXECUTIVE



I am pleased about the progress I have seen across the business during 2016-17 and my first 12 months as SA Water's Chief Executive. During this time we have developed a new vision and strategy for the Corporation, which places our customers at the heart of everything we do, and shapes our day to day decision-making.

**World class water services  
for a better life.**

Our vision is guiding our 1 500 SA Water team members towards the future, and we feel positive about our way forward. Our new organisational values reflect the underlying organisational culture, as well as our future direction.  
*Together we deliver safely, and stand accountable, genuine and innovative every day.*

## **CUSTOMERS: WE ARE LISTENING AND ACTING**

With our customers at the heart of everything we do, we have made some changes to better understand customers' needs, and so deliver our services more effectively. We have realigned the organisation, and as a result we are now more agile and responsive.

Ongoing customer research provides us with the insight to understand what our customers expect from us. This insight builds evidence for us to make sound business decisions.

For example, one area we needed to improve was how we interact with customers following an incident which



affects them personally, like a disruption to their water service on account of a water main break requiring repair or a water shut off for maintenance. As a result, we have created a team dedicated to community support. This fantastic team supports customers face to face when they need it, to improve communication and reduce service disruptions and any associated impact.

Maintaining affordable water and sewerage prices remains a priority for us. We are listening to our customers and will continue to work hard to keep prices as low and stable as possible. During the past four years, SA Water customers have seen a 6.5 per cent decrease in combined water and sewerage bills, with an \$87 in average per customer reduction for 2016-17 year only.

## **SAFETY**

Many of our team are in roles which expose them to safety hazards and risks, for example working in confined spaces, working near traffic while undertaking pipe repairs, operating heavy machinery, and driving, sometimes long distances. We continue to work on programs to bring safety to the front of mind of our entire workforce. We must deliver safely, every single day, and the safety of our team members and the community we work with must always come first.

## **WORLD CLASS**

In the past 12 months we have continued to introduce world class technologies in Adelaide. For example, in our laboratories where our water quality experts at the Australian Water Quality Centre (AWQC) are using

advanced DNA equipment to analyse a simple water sample, to determine exactly what organisms, including plants, animals and bacteria, have been in contact with that water source. This is a first in the water industry in Australia and the opportunities ahead are near limitless.

Another world class project delivered in 2016-17 is a smart network for Adelaide's CBD. A tailored design of sensors underneath the city streets are transmitting real-time information to us on how the water network is performing. We are using these devices to listen to the sounds of our network, better understand water use and pressure, and prevent potential service disruptions before they impact our customers and the community.

In the past year we have made good progress on key projects including dam upgrades at Kangaroo Creek in the Adelaide Hills and Tod on the Eyre Peninsula; energy efficiency improvements namely at the Glenelg and Bolivar Wastewater Treatment Plants; a refurbishment of our largest metropolitan water storage tank at Hope Valley; and major sewer network upgrades for the Adelaide CBD, Victor Harbor and Lobethal. We also announced we would increase our investment into replacing water mains by an additional 100 kilometres. By the end of 2020, we will have renewed 375 kilometres of pipe across the state. All will have a positive effect on water security and quality, and enable future growth in South Australia.

## **LEW OWENS**

We farewelled Lew Owens as the Chair of our Board, and I would like to thank him for his contribution over the past six years and his support since I have joined SA Water. Lew's dedication and support has been outstanding. In addition, his connection with and understanding of issues affecting the South Australian Aboriginal community has been instrumental in the development and launch of our Reconciliation Action Plan.

I am proud of the work everyone at SA Water has delivered so far and I know we are all committed to do more to achieve our vision of *World Class Water Services for a Better Life*.



**Roch Cheroux**  
Chief Executive



# ABOUT SA WATER

## OUR VISION

# World class water services for a better life.

## OUR VALUES

Together we deliver safely and stand accountable, genuine and innovative every day.

## OUR ORGANISATION

SA Water is South Australia's leading provider of water and sewage services for around 1.6 million people. For more than 160 years we have been working together with South Australians to ensure a reliable supply of safe, clean water and a dependable sewerage system. We are committed to ensuring our services represent excellent value.

SA Water is a statutory corporation reporting to an independent Board, and is included within the portfolio of the Minister for Water and the River Murray. The Minister is accountable to the South Australian public for the delivery of efficient and effective water and sewerage services.

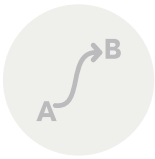
We also work closely with a number of government agencies including:

- Department of Premier and Cabinet
- Department of Treasury and Finance
- Department of Environment, Water and Natural Resources
- SA Health
- Environment Protection Authority.









# STRATEGY

PRIORITISING OUR WORK TO ACHIEVE OUR GOALS

## Customers shaped our vision: *World class water services for a better life.*

Our strategy sets our path as we work towards this vision, guiding the decisions we make, with goals specified below. Our values set the way we work to achieve these, safely delivering essential water and used water services every day.



### GETTING THE BASICS RIGHT EVERY TIME

Customers expect us to get the basics right: the safety and availability of quality drinking water and dependability of sewerage services. We are responsive when things go wrong, fix faults quickly and meet our regulated responsibilities. Customers expect our prices to be low and stable.

### WORKING TOGETHER

As a team, our productive, respectful relationships with our customers, regulators and stakeholders are key to delivering services our customers' value. Understanding and supporting our customers is vital.

### LEADING THE WAY

We are leaders nationally and globally to give our customers confidence that we are innovating to achieve outcomes for them. We support the South Australian community and economy.

### CAPABLE AND COMMITTED TEAM

Our experienced and capable team consistently live our values with actions and behaviours to safely deliver for our customers every day. Our team are valued brand ambassadors.

### KEEPING IT SIMPLE

Simple, easy, customer friendly processes are important to create value for our customers.



# YEAR IN REVIEW

## CUSTOMER EXPERIENCE

### KEEPING OUR CUSTOMER AT THE HEART

During 2016-17, we have continued to focus on improving the customer services we know are valued. We established a customer experience team, in order to better understand customer insights and help our team convert these into improved outcomes for customers.

We measure our customers' satisfaction with their service experience on an ongoing basis. Our overall 2016-17 customer satisfaction was 80 per cent, which was slightly below our target of 82.5 per cent.

Our focus for 2016-17 has been on building our capability to keep customers informed, via their preferred method, about what is happening with their water and sewerage services and resolving customer issues when they arise as quickly as possible.

### PROVIDING DIGITAL SOLUTIONS

We understand that our customers value multiple channels of communication, with many preferring to interact with us via digital methods. Our digital program has given our customers more choice in the way they can interact with us.

A number of digital transformation projects were implemented including:

- automated payment extension service
- an updated, user friendly website, including improved fault information
- a new online fault lodgement form
- an [interactive map](#) showing when and where water mains are being replaced, as well as details on pipes within the existing network.

All these digital solutions were developed in consultation with customers throughout the design, build and trial phases which was critical to the success of the program.

Ongoing digital programs for 2017-18 include:

- mySAWater
- implementation of new payment options
- improved outage notifications and fault information for customers via SMS, email and online.

### ENABLING MOBILE AND RESPONSIVE FIELD TEAMS

The development and adaptation of technology during 2016-17 has improved the way field teams work. During the year, field mobility tools were implemented, together with enhanced network access, wi-fi hot spots at depots/workshops, and a new app linked to our work planning system. The Work Order app enables field teams to receive and perform work in the field, as well as the ability to capture data about our assets and customer related information.

The Work Order app was designed taking into account customer feedback and insights as part of a program of work, ensuring we are continuously developing innovative solutions to meet our customers' expectations both now and into the future.

Deploying the Work Order app to a workforce located across the state proved a challenge, with 450 people



across 19 South Australian locations, as far north-west as Streaky Bay and as far south-east as Mount Gambier. Extensive trialling of all technology and hands-on training for 500 staff, together with onsite technical support proved successful with continued customer delivery service.

By moving away from a paper based work system, our people have the ability to be more mobile, more responsive and more effective in providing information to our customers about service interruptions and restorations. Further key benefits have been the reduction in the amount of resources needed to support field data entry, and the amount of data rework when in the field.

Our priority for 2017-18 is deploying the Work Order app to additional teams including alliance partner Allwater in order to standardise work systems across metro and non-metropolitan areas.

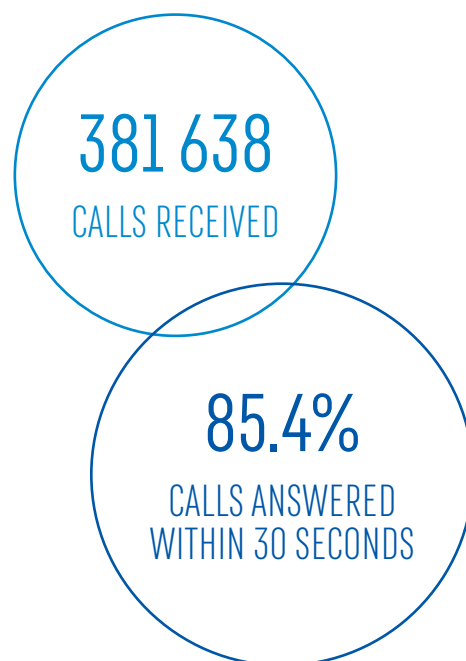
**WORKING TOGETHER WITH ALLWATER**

We have entered into the seventh year of the Adelaide Services Alliance with Allwater.

The Alliance delivers water and used water services to more than 1.2 million people across the metropolitan area. It provides front line services to operate and maintain metropolitan Adelaide’s water supply including 9 000 kilometres of water mains and six water treatment plants (WTPs). In addition, Allwater’s scope of works covers operations and maintenance of 7 200 kilometres of sewer mains, six wastewater treatment plants and various recycled water schemes.

Major achievements of the Alliance across metropolitan Adelaide during 2016-17:

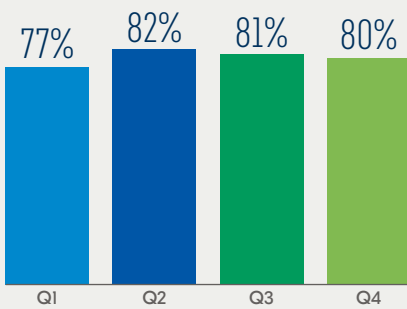
- improved nitrogen removal for water going to the Gulf St Vincent was achieved at all metropolitan wastewater treatment plants (WWTP) with more than 4 600 tonnes of nitrogen removed through the Bolivar treatment plant
- the Glenelg WWTP achieved the lowest total nitrogen levels to the Gulf to date
- energy production was increased at the WWTPs with an additional 660 MWh produced at the Bolivar WWTP and 200 MWh Glenelg WWTP, compared with 2015-16
- new technology and field apps have empowered field crews, including the new Shut-Off app, a smart phone tool to better manage customer outages and protect critical customers
- supported the successful delivery of significant capital works, including Glenelg WWTP inlet works, supervisory control and data acquisition (SCADA) projects, Northern WTP projects, Bolivar primary tanks and major network projects (Darlington Upgrade, Torrens to Torrens, O-Bahn City Access)
- a new contract for waste management delivering savings of approximately 10 per cent, as well as diverting a significant volume of waste from landfill, reducing energy and transport costs.





### DELIVERING CUSTOMER SATISFACTION

Our customer care centre continues to meet set Service Level Standards and maintain customer satisfaction, with results remaining consistent across all four quarters.



As part of our continual improvement, a new complex enquiries team was created with agents from across the customer care centre to deal with all customer correspondence. Despite the fact we began the first half of 2016-17 below our Service Level Standards, and established a new team, we managed to meet our annual target of answering 95 per cent of written correspondence within 10 working days.

Further developments in reducing the number of calls to our customer care centre have been implemented together with the digital team, by offering self-help options for simple and low-level enquiries.

Another improvement in customer experience was to bring 100 per cent of customer calls in-house.

### SUPPORTING OUR CUSTOMERS

Our community support team has continued to evolve throughout 2016-17 to provide an improved support response for our customers and the wider community who experience an extended service interruptions, or property/personal damage as a result of a fault such as a main break.

By working closely with Allwater, communications and claims management teams we are keeping processes simple and our customers as the focus. One initiative implemented is customer care packs; information given to impacted customers detailing the support SA Water provides further to incidents. One-on-one case management is also provided to resolve issues including property cleaning, temporary accommodation and assistance with the insurance claims process.

During 2016-17 our community support team responded to more than 1 000 incidents with an average attendance of 97 per cent against our target rate of 95 per cent. The team provided a tailored support response to 278 customers who had experienced property or personal damage with 227 customers having their claim paid and issues fully resolved.

During 2017-18 we will continue developing and improving our processes and systems to ensure they are efficient, integrated and continue to focus on customer outcomes.

### SUPPORTING BILL PAYMENT

Our customer assist program is part of our early intervention strategy to engage with and help customers at risk of not being able to meet their financial responsibility. In 2016-17, more than 5 000 residential customers participated, with 2 065 customers successfully completing the program. Of the participating customers, 243 received free water audits or emergency plumbing assistance.

The program matches customer fortnightly payments towards their water bill, with a quarterly credit towards their bill as incentive to pay. In 2016-17, more than 1 920 quarterly credits were applied, valued at \$120 000, with an average customer quarterly credit of \$60.

### IMPROVING WATER SERVICES FOR ADELAIDE

With customers central to our business, the use of smart technology will help us to better understand how the network is operating at any given moment and where the stress points are.

From 30 June 2017, the industry-leading smart network in Adelaide CBD became operational, achieving a major milestone in our pilot program that has been a focus throughout 2016-17.

The trial has been installed in the Adelaide CBD due to a number of factors including the higher potential impact and disruption to customers from water main breaks and leaks. This is based on the number of customers including water-dependent businesses, and consistently busy traffic areas.

While this type of technology has been tested and proven by water utilities around the world, we are the first Australian water utility to deploy it on this scale and use the information in real time to manage our water network.

As the smart network has been operational since 30 June 2017, only early performance metrics are available. We are at the beginning of the journey to realise the full benefits of the technology. While the smart network is already providing useful information on the performance of the network, water main breaks and leaks will still occur from time to time.

Our focus going forward is learning how to best use the smart network data and understand what is happening in the CBD water network, in real-time as well as using that information to enhance and further develop the system. The full benefits of this CBD pilot project are expected to be realised in early 2018.

Once tested and proven, we will look to adopt this innovative and emerging technology across other parts of our network. This is likely to start in the wider metropolitan area and then to major regional hubs, before covering our water network statewide. Planning for this wider roll out will continue through 2017.







## DELIVERING DRINKING WATER TO REMOTE COMMUNITIES

Throughout 2016-17 we continue to deliver a safe and sustainable drinking water supply to our customers in some of the harshest and most challenging environments in Australia.

A major challenge for the year was managing localised flooding of bore water infrastructure at [Oak Valley](#) after a period of intense rainfall. The entire bore field was underwater, resulting in some bores being under flood waters to a depth of 1.8 metres.

Further issues were identified including the bore's electronics either not working or not serviceable, coupled with long-serving pumps that were not operable or removable. To ensure supply, replacement bore holes were sunk.

Working closely with Department of Environment Water and Natural Resources (DEWNR), SCADA equipment was back online and operational for monitoring back in Adelaide.

Continued supply during works was available from a reticulated rainwater system as an interim measure to supply our customers. The outcome resulted in maintaining a quality of life and ensuring water restrictions were not required. Continual two way communications with the local community was maintained throughout.



Aerial view showing bore OVMB-10



Aerial view showing former water storage 'shed tank'. Three bores located in the water to the left of the shed structure.

## ENGAGING WITH OUR CUSTOMERS

We engage with the community through education programs, site tours, expos, presentations, as well as market and social research.

Through these activities we aim to increase our reach into the community to share and test ideas, hear feedback and raise awareness about our operations to supply water and used water services to South Australian households and businesses.

Feedback gained through community and customer engagement has helped shape our corporate strategy and ensures there is a direct link between our strategic direction and our customer value. By sharing our customers' stories to teams within SA Water, we can consider customer needs and expectations in decision making, planning and operations.



We have continued to run a number of community events and student learning programs throughout 2016-17 including:

- our Brainwave program, with 9 723 students participating
- tours of the Adelaide Desalination Plant and Kauwi Interpretive Centre by 2 253 people
- tours of water and used water treatment plants as well as presentations about water services reaching 1 060 people
- Quench Benches at a range of public events across South Australia providing water to more than one million people
- 15 sponsorship partner organisations, events and programs
- more than 200 000 downloads of our online apps such as *Let the Poo Thru*.





FEEDBACK GAINED THROUGH  
COMMUNITY AND CUSTOMER  
ENGAGEMENT HAS HELPED SHAPE  
OUR CORPORATE STRATEGY AND  
ENSURES THERE IS A DIRECT LINK  
BETWEEN OUR STRATEGIC DIRECTION  
AND OUR CUSTOMER VALUE.









## WATER SECURITY, WATER QUALITY AND SANITATION

### BUILDING RESILIENCE

As a step change to becoming a more resilient organisation, we merged our Emergency Management Policy and Business Continuity Policy into a single Organisational Resilience Policy. This single policy incorporates multiple areas across the business including IT continuity, physical security, risk management and cultural resilience.

The planning and consolidation of policy to develop an Organisational Resilience Policy proved beneficial and effective during the storms of September 2016, and state-wide power outage. Through these events, we were able to continue to operate as a result of effective planning.

As reflected in the *Independent review of the extreme weather event South Australia 28 September – 5 October 2016*, we were able to ensure the supply of water and sewerage services, avoiding service disruptions and any potential health risks. Impacts due to the power outage were managed. Close liaison with SA Power Networks enabled a co-ordinated approach to electricity management and restoration.

Continued collaboration between asset management and resilience teams to ensure better understanding of the Corporation's critical functions and build-in resilience with existing and upgraded infrastructure will make resilience part of our future planning modelling.



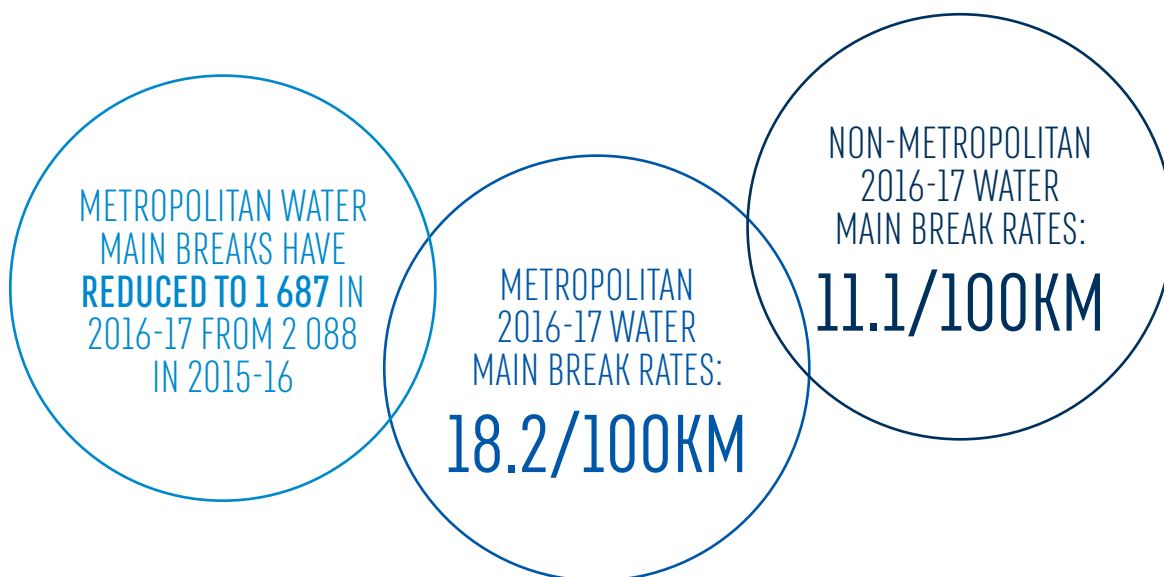
“SA WATER’S BUSINESS CONTINUITY POLICY ARRANGEMENTS ENSURED THE SUPPLY OF WATER AND SEWER NETWORK, AVOIDING PUBLIC HEALTH ISSUES.”

*INDEPENDENT REVIEW OF THE EXTREME WEATHER EVENT SOUTH AUSTRALIA 28 SEPTEMBER - 5 OCTOBER 2016*

### MEETING CUSTOMER EXPECTATIONS

Customer expectations of our performance have shifted over the past 12 months. Our customer engagement team explored these expectations with customers in surveys and workshops and, from their feedback, we adjusted our performance targets.

Our main focus was for an improved level of service and reliability of our water services. To achieve new targets an additional \$55 million was required to be invested to increase the renewal length on the pipe replacement program plus install additional shut off valves across the network.



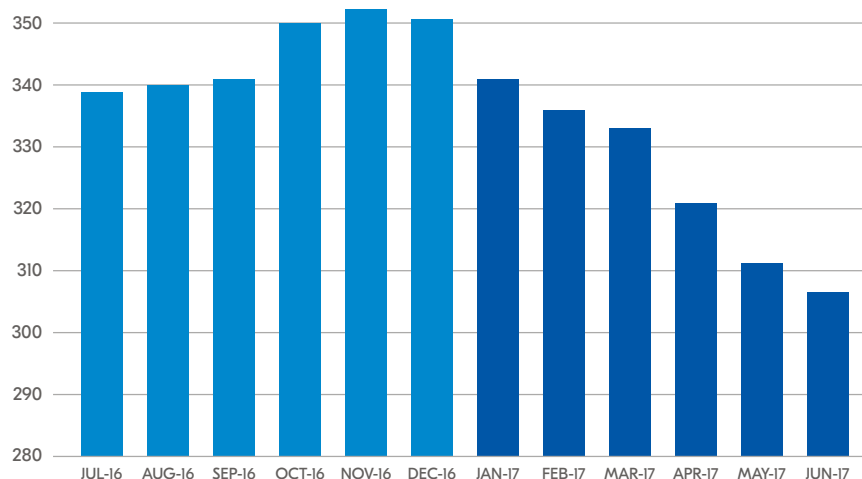
The reviewed targets increased the delivery from 15 kilometres to 40 kilometres of water main renewal during 2016-17. The target length of water main renewal was increased by 250 per cent and time to delivery decreased by 35 per cent. The water main renewal program across all disciplines met the challenge, including planning, project management, stakeholder engagement, environmental services, engineering design, network operations, construction contractors and construction auditing.

The additional program focused on arterial road water main renewals with the aim to reduce the number of incidents with significant traffic impact. Historical poor performance was also assessed.

### Decreasing rate of water main failures

Since beginning the acceleration of water main renewals in January 2017, the water network performance has significantly improved. The rate of water main breaks has steadily decreased to 18.2 failures/100 kilometres per year by June 2017, from 22.5 failures/100 kilometres per year as at late 2016. This rate is expected to continue to decrease while we deliver an accelerated program and we anticipate meeting our revised target of 16.8 failures/100 kilometres per year.

State-wide water main breaks – 12 month rolling average



The reduction in water main breaks in 2016-17 has resulted in fewer service interruptions to our customers and subsequently improved attendance by our crews.

This builds on our *National Performance Report (NPR) 2015-16: urban water utilities ranking*. In 2015-16 the national median for water main breaks was 21.4 per 100 kilometres of pipe. For the same period, our main break rate was 14.9 breaks per 100 kilometres of water main, ranking mid-range, including when compared with the 44 like utilities of the 86 across urban Australia.

### Innovation for customer benefit

As part of our program we have trialled new methods and techniques including:

- trenchless method of mains renewal on Grand Junction Road
  - › reducing impact of construction works
- water main lining technique for rehabilitation of water mains in Berri
  - › reducing costs and impact of renewals.

### Continued significant water main renewals across the state

The revised increase in the water main replacement program will continue for the next three years. In order to deliver this increased length a tailored framework model has been set up by procurement to increase efficiencies with a single contractor.



## **BORDERTOWN'S POOCHER SWAMP MYSTERIES UNCOVERED**

A \$500 000, six-year study into Poocher Swamp and the limestone aquifers it supplies has given us a unique understanding of how Bordertown's fresh water source refills. The research was the largest study ever conducted into Poocher Swamp's groundwater system, and confirmed the size of the aquifer and how it can provide Bordertown residents with a sustainable supply of drinking water.

The aquifer is a precious resource for Bordertown, and an inspiring feature of the natural environment. The Poocher Swamp aquifer network is an oasis of fresh groundwater surrounded by brackish water. These new findings on the aquifer's size and the limestone cavity networks will help us operate the borefield and plan the long-term security of Bordertown's water supply, safeguarding it for future generations to enjoy.

Bordertown relies on a groundwater supply refilled by water draining through runaway holes in Poocher Swamp and flowing through a hidden, underground network of limestone cavities leading into the aquifer.

The extensive study also assessed how the flows from Tatiara Creek into Poocher Swamp impact both the security and quality of the underground supply. Bacteria and other microbes in the raw water bond to limestone particles and are removed from the water as it flows through the porous rock, allowing the aquifers to act as a natural filter. The limestone aquifers are a highly effective natural filter and complement the treatment processes that we follow to ensure our Bordertown customers receive high-quality, clean and safe water from the area's bores.

We worked with local landowners with assistance from the Department of Environment, Water and Natural Resources (DEWNR) and specialist geophysical contractors to complete the research into this groundwater resource.

Researchers used the NanoTEM technique, which sends an electromagnetic pulse into the ground and records the signals that bounce back. Comparing signals from the ground with data collected on rock formations in boreholes enabled us to build up a detailed picture of the underground water system.

## **GREENING REMOTE SCHOOL OVAL**

Instead of using potable water for irrigation of the school grounds in Amata Aboriginal Community, we investigated available technology and feasibility of the treatment and reticulation of used water for use on the oval.

A contract to supply a wastewater treatment plant, installation and civil works was awarded at the end of 2016, with tenders for installation and civil works starting in 2017-18. The Amata used water reuse project team is working closely with Department for Education and Child Development, Defence Housing Australia, Nganampa Health, and the Amata Aboriginal community to ensure the success in having the first grassed oval in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.





## SUPPORTING LEIGH CREEK

The management of water and used water services in Leigh Creek was transferred from Flinders Power to SA Water for five years. This is part of the State Government's commitment to helping secure the social and economic future of Leigh Creek and supporting the continuation of an essential service.

From 14 December 2016, we began operating for all related pipework, storage tanks, a series of bores, a used water treatment plant and a desalination plant.

We have taken responsibility for providing bulk water to the Lyndhurst Progress Association and the Outback Communities Authority for their separate provision of water to respective customers in Lyndhurst and Copley in the Leigh Creek region.

We have an existing presence in the region, and have employed three new staff in the township to support operations at Quorn, Crystal Brook and Port Augusta.

## WORKING TOGETHER WITH COMMUNITIES

We engage with customers, communities and stakeholders in the planning and delivery of capital and business development projects. Some of the key engagements undertaken during 2016-17 follow.

The Tod River dam safety upgrade included working with local government, property owners and other community members on the Eyre Peninsula to identify and address potential issues in the lead up to and during construction of the safety upgrade. A number of community information sessions were held and a community reference group was established to exchange information, discuss issues of importance and to enable the community to have input to project outcomes.

With additional investment and an expanded schedule, the key focus for the delivery of the water main renewal program in the metropolitan area was early, ongoing and consistent engagement. Impacted customers were provided with timely information about upcoming works. Businesses were contacted to determine their water requirements and inform the scheduling of interruptions to minimise impacts. We worked closely with our alliance partner, Allwater, and contractors to provide construction updates in a timely manner and ensure stakeholder requirements were understood.

Engagement for the proposed Northern Adelaide Irrigation Scheme involved briefings with industry groups, government agencies and the Northern Adelaide Plains community. A key issue for community is the storage of recycled water to support the scheme. To address this, we established a community committee that had input to storage options and developed guidelines. These represent criteria that the community have requested be addressed for the establishment of recycled water storage in the Northern Adelaide Plains.

Planning for the Hope Valley tank upgrade saw a number of community information sessions held to inform residents of the upcoming works, including vegetation and construction impacts to nearby properties. Engagement gained support for the project and secured input into landscaping plans.

Engagement with the Sandy Creek community supported the construction of a new wastewater pump station that met acceptable noise levels. The community had influence on the building amenity, including noise mitigation, design and landscaping.



## IMPROVING OUR ASSETS

We manage a range of large projects across South Australia. Projects are initiated for a range of reasons including:

- making sure our networks can support population growth and increased demand
- proactively maintaining and fixing our networks
- improving the quality of the services we provide
- reducing risks around flooding, safety or environmental impacts
- reducing our impact on the environment through recycling and reuse.

**The following projects are key projects from 2016-17.**

### Western Adelaide Wastewater Network Upgrade Project

The Western Adelaide Wastewater Network upgrade during 2016-17 involved the installation of a new trunk main to increase the capacity for Adelaide's CBD and inner southern and eastern suburbs.

There were challenges delivering this project relating to stakeholder impact, safety and continuity of services. Stakeholder impact was managed through our stakeholder engagement group, particularly in the forward planning stages of the work. The safety and technical issues were addressed through the selection of an experienced contractor who was part of our panel of Tier 1 contractors. We also engaged an experienced construction manager to work closely with the contractor and monitor safety, quality, environmental and stakeholder issues on a daily basis.

The work to install the new pipeline was completed on schedule and with no significant safety, quality, environmental or stakeholder issues.

The long term benefits include extending the service life of the used water systems for the CBD and south-eastern suburbs by up to 30 years.

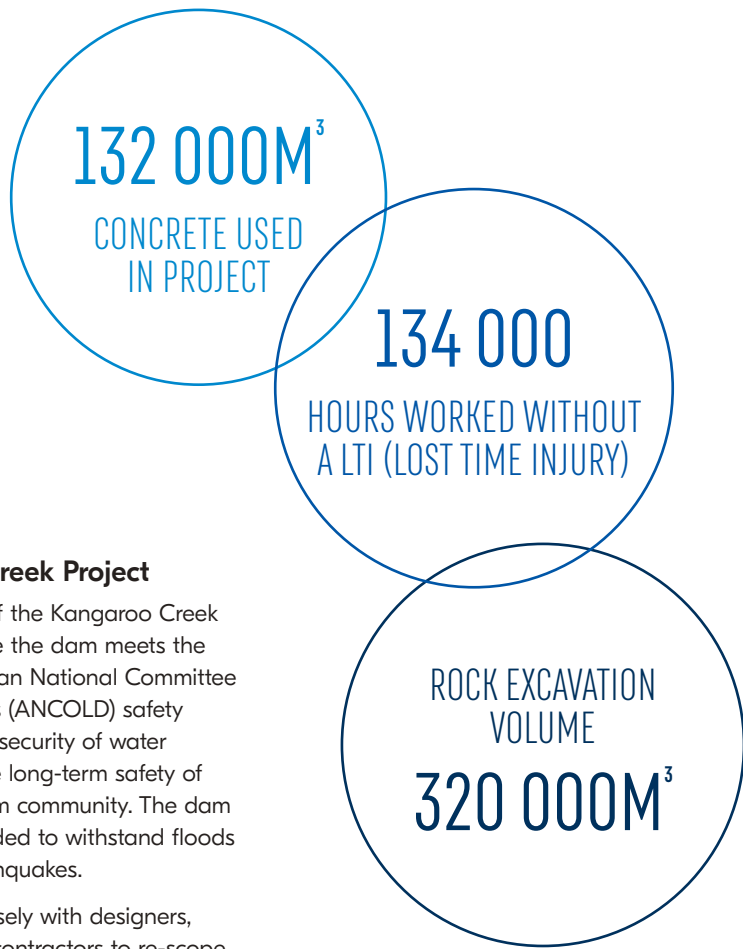
### Glenelg Wastewater Treatment Plant Inlet Works Upgrade

The construction and commissioning of the Glenelg WWTP inlet works, Anderson Avenue Pumping Station Refurbishment, and the Odour control plant was a significant project for 2016-17.

The completion of these works benefit our customers by:

- reducing odour levels being emitted from the treatment plant
- extending asset life
- increasing reliability of the plant inlet works and pump station
- reducing the risk of environmental overflow incidents due to improved operating conditions
- reducing energy use and minimising greenhouse gas emissions at new inlet.

Continual performance monitoring of the completed works will occur to measure effectiveness.



### Victor Harbor Wastewater Capacity Upgrade

The construction of the pipeline was critical to ensure the Fleurieu Recreational Aquatic Complex was able to open on time in March 2017 to meet community expectations.

The delivery schedule was tight with deep trench construction required in a number of places coupled with higher than average rainfall while works were undertaken which raised the water table and provided a difficult construction environment.

The Fleurieu Recreational Aquatic Complex is a valuable addition to the people of Victor Harbor. We have provided a reliable used water connection that is able to eliminate the likelihood of overflows and odour along the old coastal main. It has provided a long term solution to provide capacity to support residential and commercial growth.

### Kangaroo Creek Project

The upgrade of the Kangaroo Creek dam will ensure the dam meets the current Australian National Committee on Large Dams (ANCOLD) safety guidelines, the security of water supply, and the long-term safety of the downstream community. The dam is being upgraded to withstand floods as well as earthquakes.

We worked closely with designers, reviewers and contractors to re-scope the project. Measures were taken to limit the impact of the floods and works continued on spillway excavation during this time to ensure that works were able to continue.

Our priorities for the Kangaroo Creek dam upgrade in 2017-18 are:

- complete the rock excavation of the spillway
- widen and improve the downstream spillway embankment
- complete the outlet extension works
- start concrete works in the spillway
- install cofferdams to ensure the ongoing safety of the downstream public during construction.





## SA HEALTH STATEMENT

In 2016-17 SA Water complied with all requirements of the *Safe Drinking Water Act 2011* (SDW Act) and maintained supply of safe drinking water to South Australia.

SA Water operated drinking water supplies were extensively tested for health-related parameters to produce a total of 40 942 analytical results. Compliance with the *Australian Drinking Water Guidelines* (ADWG 2011) for *E. coli* was achieved in 99.91 per cent of metropolitan Adelaide samples and 99.95 per cent of country samples. Overall compliance with the ADWG for health-related parameters was 99.84 per cent for metropolitan systems and 99.66 per cent for country areas.

Operation of the interagency *Water/Wastewater Incident Notification and Communication Protocol* was maintained successfully throughout the period. The total number of incidents reported by SA Water in 2016-17 was higher than previous years.

Above average rainfall, warmer than average temperatures and poor water quality in the River Murray resulted in increased numbers of incidents due to detection of enteric protozoa, cyanobacteria, elevated concentrations of disinfection by-products and elevated filtered water turbidity compared to 2015-16.

Water quality incidents were notified by SA Water in a timely and prescribed manner. Appropriate responses and corrective actions were implemented in all cases and these prevented any risks to public health.

## SAFE DRINKING WATER LEGISLATION

*South Australia's SDW Act took effect from 1 March 2013. The audit and inspection schedule started from 1 July 2014. We successfully completed the third yearly audit and met all legislative requirements.*

The SDW Act provides the regulatory framework for drinking water providers in South Australia and is administered primarily by SA Health with assistance from local government.

Provisions in the SDW Act are underpinned by the ADWG (2011) and stipulate requirements for drinking water providers, including:

- registration of drinking water providers with SA Health
- development and implementation of risk management plans
- establishment of approved drinking water quality monitoring programs
- notification of incidents or non-compliance
- audits and inspections to determine compliance with the SDW Act
- use of National Association of Testing Authorities, Australia (NATA) accredited laboratories for sample testing
- reporting of water quality test results to SA Health and providing consumers with drinking water quality information.

We are registered as a drinking water provider and have approved monitoring programs and an incident notification protocol. We provide water quality testing reports for metropolitan and country water supplies on a monthly basis with results showing a high level of compliance. In April 2017, we successfully completed the third yearly audit. A number of representatives of our drinking water supplies were audited to satisfy the requirement of the SDW Act. We met the legislative requirement for all metropolitan, country and remote community supplies.

Further information on the SDW Act can be found at: [sahealth.sa.gov.au/safedrinkingwateract](http://sahealth.sa.gov.au/safedrinkingwateract)

We also provide additional information regarding water quality which can be found on our website.

## DELIVERING SAFE, CLEAN WATER

We demonstrated robust management of water quality by consistently providing safe, clean drinking water to our customers despite the challenges posed during 2016-17, by the water quality in the River Murray as a result of flooding and the blackwater event.

The following table provides a summary of our performance for health-related parameters of routine samples at customer taps during 2016-17.

### State-wide, metropolitan and country drinking water supply systems health related performance (2016-17)

HEALTH RELATED PARAMETERS	STATE-WIDE SYSTEMS (NUMBER OF TEST ANALYTES)	METROPOLITAN SYSTEMS (NUMBER OF TEST ANALYTES)	COUNTRY SYSTEMS (NUMBER OF TEST ANALYTES)
Samples free from <i>E. coli</i>	99.94% (11 211)	99.91% (3 340)	99.95% (7 871)
Samples compliant with ADWG health parameters*	99.71% (40 942) 2016-17 target: 99.80%	99.84% (12 204) 2016-17 target: 100%	99.66% (28 738) 2016-17 target: 99.80%

\*includes performance against *E. coli*

Note that direct exceedances of the Australian Drinking Water Guidelines were used rather than the 95<sup>th</sup> percentiles for compliance of individual chemical parameters

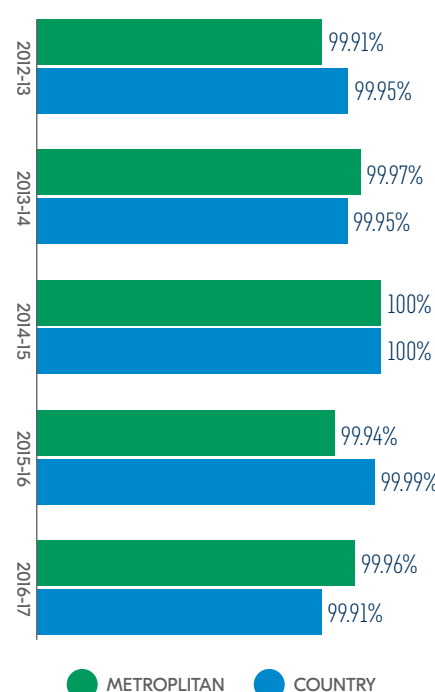
Our water quality performance against the ADWG health parameters was marginally below target for the state-wide, metropolitan and country measures. This result can be largely attributed to disinfection by-product (DBP) exceedances. In systems fed from the River Murray a short term increase in DBP exceedances were seen as a result of the blackwater event. DBP's also exceeded across a number of other metropolitan and country systems as a result of challenging source water conditions. More information on the blackwater event can be found on pg 29.

The ADWG recognise that occasional detections may occur. In accordance with the guidelines and the interagency *Water/Wastewater Incident Notification and Communication Protocol*, all detections were immediately communicated to SA Health, investigated by SA Water and corrective actions implemented as agreed, including providing information to our customers as appropriate.

SA Health has confirmed that drinking water provided to customers by SA Water was safe, and appropriate responses and corrective actions were implemented in all cases preventing any risks to public health.

During the year, we identified systems where we were below target and proactively implemented management strategies to address these situations. Such measures included flushing of systems, additional disinfection, immediate follow-up sampling and close communication with SA Health.

### *E. coli* compliance at metropolitan and country drinking water supply system customer taps since 2012 (customer tap samples free from *E. coli*)



A photograph of two school children running in a schoolyard. The child in the foreground is a boy in a light blue shirt and dark pants, running towards the right. Behind him is a girl in a light blue shirt and dark shorts, also running. The background shows a brick wall and a large window with a red frame. The text is overlaid on the left side of the image.

WE DEMONSTRATED  
ROBUST MANAGEMENT  
OF WATER QUALITY BY  
CONSISTENTLY PROVIDING  
SAFE, CLEAN DRINKING  
WATER TO OUR CUSTOMERS.







## CATCHMENT TO TAP

We manage drinking water quality from catchment to tap in line with our Drinking Water Quality Management System (DWQMS) to ensure a consistent and reliable supply of high quality, safe drinking water to our customers.

This management system is based on the Framework for Management of Drinking Water Quality outlined in the ADWG that is endorsed by the National Health and Medical Research Council (NHMRC). The framework outlines good drinking water supply management, based on the best available scientific evidence that will assure drinking water quality and safety at the tap.

### Achievements in 2016-17:

- successful outcome of SA Health's annual SDW Act audit
- overall finding indicated that SA Water and its contract partners consistently meet the requirements of the SDW Act, Regulations, SA Health audit report and ADWG
- we demonstrated extensive and comprehensive water quality management planning. The standard of supporting systems was high, and all twelve elements of the ADWG Framework were fully implemented.

Key highlights of the SDW Act audit include:

- our detailed Risk Management Plans for all water supply systems, supported by monitoring program inclusive of all relevant microbial, physical, chemical and radiological parameters
- national best practice for water quality verification monitoring and reporting
- continuous on line monitoring for water filtration, sedimentation and disinfection with additional treatment such as augmented coagulation, powdered activated carbon, MIEX, and aeration, at some locations to remove organic matter
- robust operational checks at critical control points, e.g. continuous on line monitoring at primary chlorination and ultra-violet disinfection systems.

We achieved our performance measure targets against the 12 elements of the ADWG Framework for the management of drinking water quality. We improved our ADWG water quality management framework implementation percentage from 94.3 per cent (2015-16) to 95.1 per cent during 2016-17, exceeding the 2016-17 target of 95.0 per cent.

The performance was measured through AQUALITY, the ADWG performance evaluation tool developed by the Water Services Association of Australia.

The SDW Act auditor commented that a management score of 95 per cent indicates a mature DWQMS for a water utility.

We have worked toward improving and developing new documentation to manage water quality hazards and risks; ensure customer feedback is responded to in a consistent and equitable manner; provide direction to operators in relation to customers who are dialysis users; and to achieve water quality target objectives.

A tool that will help record and manage actions relating to quality hazards, incidents and operational improvements has been implemented. The tool strengthens our risk based water quality management in line with the SDW Act.

The above achievements were met in collaboration with business services, asset, operations and delivery, communications and engagement, people and safety, our contract partners (Allwater, TRILITY) and Department for Health and Ageing.

Future improvements proposed for 2017-18 include:

- developing enhanced strategies and initiatives, in line with the SDW Act, to meet regulatory requirements including operational procedures, validation and revalidation of control processes, training and reporting.

continuing use of the AQUALITY tool to determine strategies that will help us to continue to meet our customers' expectations.

## BATTLING BLACKWATER

Blackwater is a natural phenomenon that can occur after heavy rainfall when organic material such as leaves and wood from floodplains is washed into waterways, like the River Murray. As the organic matter starts to decompose, the water becomes dark in appearance and has a strong unpleasant smell.

Throughout November 2016 to January 2017, South Australia experienced a blackwater event. There have been three blackwater events in the past six years, with the most recent event being most severe.

The blackwater event of 2016-17 presented significant challenges to water treatment and maintaining the integrity of drinking water quality. To minimise the impacts to our drinking water customers, we undertook a number of proactive measures both prior to, and during the event.

Initially, we closely monitored the development of the blackwater event in New South Wales and Victoria. We maintained contact with the Murray Darling Basin Authority (MDBA), who together with Water NSW provided us with updates on the River Murray water quality, specifically dissolved oxygen, within the eastern states and associated tributaries.

Once it was determined the blackwater would reach South Australia, proactive management strategies were enacted. An action plan was formed and communication with relevant stakeholders who were critical in managing the impending event were involved.

Key actions taken to manage the event were:

- water treatment process changes to reduce risks of nitrification and disinfection by-product formation. Process changes were also made to improve the aesthetic quality of treated water (taste and appearance)
- network modifications such as temporary dosing facilities and reducing water age to improve disinfection and minimise potential health risks to customers
- communication channels were established between interstate agencies, including upstream Victorian WTPs, the Production and Treatment team and South Australian WTPs, to rapidly share operational water quality information
- intensified monitoring at WTPs and strategic locations upstream to enable rapid process changes at treatment plants.

Our implementation of these strategies meant that despite this blackwater event being the most severe in the past decade, nitrification was minimised to isolated pockets which recovered rapidly; barriers to microbiological contamination were maintained (no major incidents reported); and disinfection by-product formation was minimised.

This is a significant achievement given the source water challenges presented, and ensured health risks to customers were minimised throughout the event.

## MANAGING WATER QUALITY

We are committed to work within the *Australian Drinking Water Guidelines (ADWG 2011) Framework for Management of Drinking Water Quality*. The framework includes two components for the management of incidents and emergencies; communication and incident, and emergency response protocols.

We have a *Water Quality Incident and Emergency Management Protocol*. This is in line with the interagency *Water/Wastewater Incident Notification and Communication Protocol* that is maintained by SA Health to adopt the principles of ADWG 2011 and satisfy requirements of the SDW Act and Safe Drinking Water Regulations 2012.

SA Health defines three types of health related incident classifications based upon a precautionary approach as outlined below.

### Priority Type 1 incident notification

An incident that, without immediate appropriate response or intervention, could cause serious risk to human health and is likely to require immediate interagency meetings to consider responses. Procedures for Type 1 incident notifications also apply.

### Type 1 incident notification

An incident that, without appropriate response or intervention, could cause serious risk to human health.

### Type 2 incident notifications

An incident that, without appropriate response or intervention, represents a low risk to human health.





Below is a comparative summary of the Priority Type 1, Type 1 and Type 2 incident notifications reported against the interagency *Water/Wastewater Incident Notification and Communication Protocol*.

REPORTING PERIOD	PRIORITY TYPE 1	TYPE 1	TYPE 2
2016-17*	2	48	159
2015-16	4	32	74
2014-15	1	43	84
2013-14	3	34	87
2012-13	4	67	89
2011-12	2	88	121
2010-11*	5	111	172
2009-10	9	88	135

Note: These notifications do not include wastewater, recycled water, non-drinking and Remote Communities supplies.

\*Impacted by River Murray blackwater event

All Priority Type 1 and Type 1 notifications were immediately reported to SA Health, while all Type 2 notifications were reportable within 24 hours, in line with the interagency *Water/Wastewater Incident Notification and Communication Protocol*.

In 2016-17 the numbers of incident notifications increased overall when compared with 2015-16, primarily as a result of the challenges associated with the blackwater event within the River Murray. However, incident numbers remained lower than 2010-11 when a blackwater event of similar magnitude occurred. This was due to the implementation of more proactive water quality management strategies and knowledge gained from previous events.

During 2016-17, we continued our focus on early detection and reporting to external agencies, briefing the Minister for Water and the River Murray, ensuring prompt corrective action and addressing the causes of preventable Type 1 notifications, such as disinfection failures, turbidity failures and disinfection by-products. Strategies employed to achieve this include optimisation of our drinking water quality monitoring program, and capital improvements such as upgrades to filters and filter control systems.

The proactive water quality management of targeted individual water supply systems and detection and management of risks continued during 2016-17. Changes in reporting criteria issued by SA Health in the interagency *Water/Wastewater Incident Notification and Communication Protocol* also occurred and contributed to a change in reporting requirements.

### Incident Response Index (IRI)

The purpose of the IRI is to drive and guide correct responses when a Priority Type 1 or Type 1 incident is detected. The IRI is assessed against a number of criteria, with each component in the IRI designed to assist with the management of water quality incidents, including reporting, initial response and longer term preventive measures. The overall 2016-17 strategic target for the IRI is 85 per cent compliance.

CRITERIA USED IN THE INCIDENT RESPONSE INDEX (BASED ON TOTAL REPORTABLE SA HEALTH PRIORITY TYPE 1 AND TYPE 1 INCIDENT NOTIFICATIONS)	
Incident reported to relevant agencies by phone immediately (less than one hour)	Overall strategic 2016-17 target: 85%
Incident entered into the incident management system (IMS) in less than two hours	
Initial effective response taken within three hours	
Written report to Minister for Water and the River Murray by 3 pm next business day	
Root cause analysis completed within 10 working days	
Preventive actions implemented within agreed timeframes	

The continual review and improvement of our incident management processes has positively impacted on our water quality incident response and overall performance, maintaining a score well above our target.

THE INCIDENT RESPONSE INDEX ACHIEVED IN COUNTRY AND METROPOLITAN AREAS AND OVERALL FOR 2016-17 COMPARED TO 2015-16.		
SYSTEM	IRI 2016-17 FINANCIAL YEAR	IRI 2015-16 FINANCIAL YEAR
Country	92%	92%
Metropolitan	99%	97%
Overall (weighted combined country and metropolitan)	94%	93%

### During 2017-18, we will:

- continue to improve our new online incident management system for reporting and management of water quality incidents and hazards
- conduct refresher training on the *Water Quality Incident and Emergency Management Protocol* for country and metropolitan incident managers
- continue to work collaboratively with SA Health in the review and update of the interagency *Water/Wastewater Incident Notification and Communication Protocol*
- maintain our high level of incident response performance.

### MONITORING AND TESTING WATER QUALITY

To ensure the quality of the water we provide to our customers, we perform extensive quality monitoring across South Australia, from catchment to tap, including field and laboratory tests.

The purpose of this monitoring is for health and aesthetic compliance as well as operational monitoring to optimise water quality.

Samples are collected by trained field staff to ensure they are taken correctly and field results have a high degree of integrity. Laboratory analyses are carried out by AWQC in accordance with ISO 9001 Quality Systems and the requirements of NATA.

The following table summarises routine monitoring and testing activities in our water supply systems during 2016-17.

#### Number of sample taps and test analytes – metropolitan and country water supply systems (2016-17)

DRINKING WATER SYSTEMS	METROPOLITAN	COUNTRY	TOTAL
Supply systems	8	60	68
Customer taps	195	295	490
Catchment to tap sample taps*	380	928	1 308
Catchment to tap routine test analytes	80 530	292 534	373 064

\*Includes drinking water customer taps

### GROWTH FOR AUSTRALIAN WATER QUALITY CENTRE'S (AWQC) LABORATORIES

The AWQC Melbourne laboratory celebrated its first full year of operation, having opened for business in February 2016.

During the first year of operation, focus has been on growing the testing capabilities of the Melbourne laboratory to better serve AWQC's eastern states customers and building relationships with the Victorian water industry. During the year AWQC further expanded both the microbiological and chemical testing services provided through its Melbourne laboratory.

Two contracts with major interstate water utilities were secured via competitive tendering process, helping create new jobs and further showcase AWQC's expertise. Through the signing of contracts with TasWater and south-western Victorian utility Wannon Water, AWQC is supporting the continued supply of safe clean water to 240 000 plus customers. A four year contract with TasWater began in November for the provision of laboratory testing services covering Tasmania's water and sewerage systems. Analysis of water, recycled water and trade waste samples for Wannon Water began in March and will continue for the next nine years. These contracts have enabled us to expand our Melbourne and Adelaide laboratory operations.



The new business contracted as a result of opening our Melbourne laboratory has generated a total of seven new jobs across AWQC's Adelaide and Melbourne operations, helping to support state economic development and jobs growth for scientific staff in Victoria and South Australia. The opportunity to work closely with two major interstate water utilities to deliver valued services, and to share and build our collective knowledge and skills ultimately supports positive outcomes for our customers.

Our focus is very much about working together in partnership with the water industry to support the delivery of safe drinking water and management of used water systems for community benefit across Australia. We aim to deliver further value to the industry through the expansion of our Melbourne laboratory operations and testing capabilities and capacity.

### **INTELLIGENT WATER TESTING**

The AWQC Adelaide laboratory investigated the use of next-generation sequencing (NGS) and placed into service two world class pieces of robotic laboratory equipment – the *Ion Chef™* and *Ion S5™*. The technology works by placing the entire DNA from a water sample on a single chip in the *Ion Chef™* where each organism's DNA is given a barcode. The *Ion S5™* then reads all the barcoded DNA to tell us all organisms that have been or are in the water, from bacteria to vertebrates.

Transitioning and adapting technology, which has previously been used in cancer genetics, now provide results in a way that can be applied in the water industry and used effectively for making water quality management decisions.

This challenge was overcome by AWQC Molecular Scientists developing special DNA fragments called 'amplicons'. A comprehensive DNA database containing all Australian animals was curated, and also included all animals that are of interest from a water quality management perspective. This allows us to track them if required.

With this cutting edge analytical technology the AWQC Adelaide laboratory has developed DNA testing that is a first in the Australian water industry, being able to read the DNA of all bacteria and animals that have been in contact with water. It is faster, cheaper and delivers more information to customers than conventional methods.

Knowing more about what is in source waters enables us to make more informed decisions on how to treat the water before it is supplied to our customers. With this information we can better tailor treatment processes and initiatives such as catchment management, ensuring we provide highest quality drinking water to South Australians.

**Key highlight:**

In 2016-17 we processed several hundred samples for NGS diversity profiling, including samples to assist with the search for endangered Platypus in the Adelaide Hills, and recent interest in investigations on the status of the Thylacine.



## LEADING THE WAY WITH RESEARCH

We undertake research to generate and implement new knowledge and technology to drive efficiency, performance improvement and innovation for the benefit of our business and ultimately our customers.

This supports infrastructure and capital investment decisions; developing new ways to deal with water quality issues, environmental and public health risks; and evaluation, development and transfer of new technologies into operational outcomes.

Below are some key research projects from 2016-17.

### Modelling of coastal discharge impacts

This modelling supported our environmental improvement program (EIP) negotiations with the Environment Protection Authority (EPA) for the Glenelg and Bolivar WWTPs. EIP negotiations required clear communications with service providers and stakeholders (EPA and DEWNR) to prioritise activities and to meet deadlines.

Final delivery of the calibrated and validated Adelaide Receiving Environment Model provides a world-class modelling tool that will allow us to make the best investment decisions to support better environmental outcomes for Adelaide's coastal waters.

The reduction of nitrogen inputs to the Adelaide coast in the order of 1 200 tonnes since 2011 (half from Penrice, half from our wastewater treatment plants) is expected to result in water quality suitable for seagrasses over approximately 75 per cent of the area from which seagrasses were originally lost.

### Sodium percarbonate (stabilised hydrogen peroxide) as an alternative algaecide

We developed the use of sodium percarbonate (stabilised hydrogen peroxide) as an alternative algaecide to copper sulphate, which is currently used in Happy Valley Reservoir, and as a potential cyanobacterial control option in the Torrens River.

The evaluation of sodium percarbonate as a new algaecide was tested successfully through field trials in Happy Valley Reservoir and Torrens River. Both trials required organisation and installation of large pieces of equipment in the reservoir and timing this with reservoir algal blooms.

Several in-situ trials of sodium percarbonate were successfully completed providing important information which will be used to develop its use as an algaecide. This knowledge will be used in further trials planned for this financial year at both locations.

Sodium percarbonate as an algaecide will:

- reduce the high disposal costs associated with copper contamination of treatment plant sludge
- potentially oxidise dissolved organics, such as compounds that impair the taste and odour of water and would reduce treatment costs
- in the River Torrens it could potentially reduce the need for environmental flows from Kangaroo Creek, which are currently used to flush cyanobacterial blooms from the city area of the river.

### Conducting desktop reviews

As part of our energy strategy, we conducted a desktop review on energy storage to identify technologies that may form part of an appropriate energy storage solution for use with our assets.

A review was also conducted on the management of fats, oils and grease in sewer networks.

This review will be used to set new targets for trade waste customers and has identified an opportunity for using public education to reduce the amounts of fats, oils and grease being added to the sewer network. This will reduce sewer network blockages and benefit customers through improved services



WE UNDERTAKE RESEARCH TO  
GENERATE AND IMPLEMENT NEW  
KNOWLEDGE AND TECHNOLOGY  
TO DRIVE EFFICIENCY,  
PERFORMANCE IMPROVEMENT  
AND INNOVATION FOR THE  
BENEFIT OF OUR BUSINESS AND  
ULTIMATELY OUR CUSTOMERS.









# ENVIRONMENT

## MAINTAINING A HEALTHY CATCHMENT

### Reservoir catchment

RESERVOIR CATCHMENT	(FY 2016-17)		
	ACTUAL	FORECAST	VARIANCE
Natural Flows this Month/Metro(ML)	322 689	113 561	+209 127

Inflows for 2016-17 were almost three times the average forecasted scenarios and twice the annual demand of the metro Adelaide.

The approach was to utilise the North South Interconnection Systems Project (NSISP), and transfer more metro Adelaide demand through the Happy Valley WTP to tackle the large inflows through the Onkaparinga catchment.

### Catchment management

During 2016-17, our efforts focused on a number of catchment (raw) water quality projects critical to our business, including Cryptosporidium and nutrient investigations in our key metropolitan water supply systems. We investigated the magnitude and timing of pollution entering our reservoirs from our multi-use supply catchments and the natural 'treatment' the catchments and reservoirs can provide. The goal is to get a better understanding of how our natural water delivery system work and how we optimise our water treatment based on the natural treatment capacity of the catchments.

Drinking water quality protection starts in the supply catchments. Maintaining septic or 'onsite waste water management systems' (OWMS) in those residential areas in our supply catchments which are not connected to a sewerage network, forms a critical part in curbing microbial risks in our water supply. Some of the microbes, such as Cryptosporidium, need special treatment.

Around 48 per cent of private septic tanks may fail in the Mount Lofty Ranges, delivering microbial contamination to our drinking water supply catchments. We continue to contribute significantly to the waste control program which assists councils to work with landholders to maintain their residential systems. We need to ensure that councils do the best they can to help residents maintain their septic tanks, to avoid over investment in expensive treatment further downstream.

As part of our continual Cryptosporidium risk assessments across all water quality barriers of our key drinking water systems, we will be investigating Cryptosporidium infectivity and speciation in our catchments associated with water supply to Anstey Hill, Happy Valley and Myponga WTPs throughout 2017-18. This includes intensive Cryptosporidium monitoring during high stream flows, and assessing the magnitude of the 'natural treatment' the reservoir can provide on the water's way to our water treatment plants.

FIVE PRESCRIBED  
BURNS LOCATED IN  
THE MOUNT LOFTY  
RANGES WATERSHED  
AND THE EYRE  
PENINSULA, COVERING  
A TOTAL OF 414HA.

### Land and fire management

We continued to implement our extensive annual bushfire prevention maintenance regime across our landholdings to manage the ever-present bushfire risk. We collaborated with other agencies (DEWNR, Country Fire Service and Forestry SA) on bushfire prevention, suppression and prescribed burning under our agreements. We are an active participant in the Heads of Agencies (HoA) collaborative government efforts to keep South Australian communities safe and protect our native vegetation and water resources.

By controlling the vegetation on SA Water land, we are confident that we can better protect our land in the case of a bushfire and prevent significant impacts on our natural vegetation cover. The result is we do not have to cope with additional, more expensive, treatment of the catchment water draining from burnt lands.

A further focus was continuing to work collaboratively with government and the fishing community of South Australia, to enable recreational fishing in up to five offline reservoirs.

## ENVIRONMENTAL COMPLIANCE

### Compliance with Environment Protection Authority Licence Conditions 2016-17

MEASURES	TARGET	RESULT	ASSESSMENT
Metropolitan and country wastewater treatment EPA licences	100%	100%	Achieved target
Abrasive blasting EPA licences	100%	100%	Achieved target
Treated water transfer EPA licence	100%	100%	Achieved target
Production and disposal of listed waste EPA licences	100%	100%	Achieved target
Discharge of stormwater to underground aquifers EPA licences	100%	97.9%	Target not achieved

### Non-compliance with EPA Licence Conditions

A non-compliance was reported in April 2017 against the Barker Inlet Stormwater Scheme. An exceedance of iron was identified, however details of the exceedance were not submitted to the EPA within three working days as outlined in the licence conditions.

### Environment Protection Orders

Nil Environment Protection Orders were issued to SA Water between 1 July 2016 and 30 June 2017.

### Formal warning

On 4 July 2017, the EPA issued SA Water with a formal warning alleging a breach of the *Environment Protection Act 1993*. This followed notification of a Priority Type 1 incident at the Christies Beach WWTP in May, after 6ML of un-disinfected wastewater was discharged to the environment.

## CLIMATE CHANGE COMMITMENT

Our Climate Change Sector Agreement with the SA Government formalises our ongoing commitment to responding to the challenges of climate change by working with our stakeholders and the State Government, while continuing to play a leading role in providing sustainable water services to the community.

A key commitment in the agreement is to progress climate change adaptation, both for SA Water and the wider community. We have been working with local councils and other key stakeholders to progress regional adaptation plans, and looking at the climate risks relating to our service delivery as well as opportunities to contribute to liveability of the state, such as provision of recycled water for state growth.



## GREENHOUSE GAS EMISSIONS

### PERFORMANCE SUMMARY 2016-17

<b>Net tonnes of greenhouse gas emitted tonnes (CO<sub>2</sub>-e)</b> Based on 2016-17 Target	Target: 371 447	Achieved: <b>265 015</b>
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*\*The inventory is based on financial year performance and includes some estimates.*

We are continuing to meet our annual greenhouse gas reduction targets which track how we are progressing toward our long term target of emissions no greater than 40 per cent of 1990 levels by 2050. We are also continuing to achieve the target of 20 per cent renewable energy from self-generated and purchased accredited renewable energy sources. We are currently reviewing our targets in light of the State Government target of zero net emissions by 2050.

Emissions reductions initiatives include:

- energy efficiency measures
- increasing renewable energy generation from hydro-electric plants and biogas combustion
- carbon sequestered through our bio-sequestration plantings.

We are also exploring opportunities to participate in the Emissions Reduction Fund administered by the Clean Energy Regulator through opportunities for biodiverse carbon plantings and energy management.

The Climate Change Sector Agreement can be viewed at [sa.gov.au](http://sa.gov.au)

## BECOMING A MARKET PARTICIPANT

Enabling us to directly administer electricity market charges in the National Electricity Market, was a major project throughout 2016-17. This required us to register as a market participant, establish information systems and source specialised resources through collaboration with Finance, Human Resources, IT, Operations and Department of Treasury and Finance. It was identified early that we needed to create an agile approach in order to deliver the new information systems and ensure timelines could be achieved.

On 14 June 2017, we achieved registration with Australian Energy Market Operator as a direct market participant and began the transfer of our 1 800 electricity connections from our existing electricity intermediary. In 2017-18 we will see the completion of site transfers from the electricity intermediary to SA Water.

Annual operating expenditure savings of approximately \$0.5 million are anticipated, reducing our regulated operating expenditure and contributing to reduced bills for our water and used water customers.





# OUR PEOPLE

## IMPROVING SAFETY OUTCOMES

The health and safety of our people is paramount.

Work Health and Safety Services partner with us to identify and manage workplace hazards, monitor and support health and wellbeing and to provide injury management services where a worker has been injured or become ill.

Throughout 2016-17, these programs helped improve safety outcomes and are outlined below.

### Musculoskeletal program

Educating and building the capability of our people to identify at risk behaviours that may result in achieving a 43 per cent reduction in musculoskeletal injuries in customer field services.

### Preventive hazard management

Engaging business units in practices leading to improved hazard, risk identification and analysis of training needs.

### Driver safety

Managing vehicle selection, maintenance, safe loading and safe towing to reduce the likelihood of an incident resulting in an injury. We are also addressing driving and behavioural safety – such as managing driver fatigue risk, minimising driver distraction and management of road rule infringements.

### Contractor management

Working together with contractors visiting or working at SA Water premises ensured shared safety outcomes was complemented with 40 contractor forums to share safe systems of work and improvement initiatives.

### Working on water

Developed principles for working on, over or near a water body including the management of commercial vessels and employee competency to operate.

### Fatigue management

Implemented strategies to manage the risk of fatigue.

### Early intervention and return to work

Supporting employees from the occurrence of an incident to recovery and a successful return to work. In 2016-17:

- 98 per cent of injuries reported within 24 hours
- 100 per cent of work injured employees returned to work within three months
- 100 per cent of work injured employees believe their recovery is supported.

### Self-care for a healthy mind

Developing the knowledge and capability of our people to maintain and enhance their mental wellbeing with more than half of our people across the business participating in information sessions.

## GROWING CAPABILITY

### Graduate program

We have continued to support workforce planning through our graduate program. The program places graduates across a variety of disciplines including engineering, science, environment, finance, and information technology.

Three graduates were successful in transitioning from the program into roles within SA Water in 2016-17. We currently have 17 graduates undertaking roles within communications and engagement, engineering, finance, and environment.

### Trainees and apprentices

In 2016-17, four water industry trainees started the program, working in our Network Operations area. During this period three water industry trainees completed and moved into ongoing roles. These traineeships will support workforce planning in Operations and Maintenance in the next five years.

We employ apprentices in three vocations:

- electrical (Certificate III in ElectroTechnology)
- fitting and turning (Certificate III in Engineering Trades – Mechanical)
- welder/boilermaker (Certificate III in Engineering Trades – Fabrication).

We employed 14 electrical apprentices, nine fitting and turning apprentices and nine welder/boilermaker apprentices in 2016-17. We employed nine new apprentices during this period. Four successfully won ongoing roles in the business.

### Cadetships

Our technical cadetships support the replenishment of para-professionals in our workforce, particularly in regional operations. Cadets were employed in engineering during 2015-16.

We recruited one Technical Engineering Cadet at Crystal Brook during 2016-17, bringing the total number of technical cadets to three.



## ACCOUNTABILITY

All employees are required to complete a Personal Achievement and Development Plan (PADP) each year as part of our Employee Performance Cycle with 100 per cent completion across the business.

## WORKING TOWARDS RECONCILIATION

Our *Reconciliation Action Plan 2017-20* is an agreed strategy and public commitment of how we will contribute towards reconciliation between Aboriginal and Torres Strait Islander People and other Australians.

During 2016-17, we launched our third formal plan, with a strong focus on stretching our commitment. The stretch targets in the plan provide the opportunity to deepen our impact towards reconciliation through the setting of clear and measurable targets. At the heart of our approach is the principle of working together for mutually agreed outcomes.

Our plan focuses on three key areas:

- people – seeking to grow our Aboriginal and Torres Strait Islander workforce and ensure employees thrive
- partners – supporting Aboriginal and Torres Strait Islander businesses and using our influence to drive mutually benefiting outcomes
- water – supporting communities in new ways with safe, clean water and education.

Initiatives undertaken in 2016-17 include:

- launch and celebrations with local communities on the *Reconciliation Action Plan 2017-20*
- appointment of an external co-chair and Aboriginal Leader, David Rathman, to the Reconciliation Action Plan Committee
- the establishment of an Aboriginal Affairs team within the organisation
- the installation of a Kurna shield and plaque at SA Water's CBD office to honour and recognise the Kurna people, and highlight our commitment to working in a meaningful, collaborative and respectful way with the Aboriginal communities we serve and the lands we operate on
- continuing cultural awareness training for our staff
- continued support to Indigenous businesses through the procurement of services
- engaging with Aboriginal communities on projects that will protect Aboriginal heritage and culture
- continuing support of National Reconciliation and National Aborigines and Islanders Day Observance Committee weeks
- continuing employment, scholarships and work experience opportunities for Aboriginal and Torres Strait Islander people. In 2016-17, we employed 28 Aboriginal and Torres Strait Islander staff which included seven new employees.

## EXECUTIVE EMPLOYMENT

EXECUTIVE CLASSIFICATION	NUMBER OF EXECUTIVES
EX A (SW10)	27
EX B (SW11)	1
EX C (SW12)	5
EX D (SW13)	2
EX E (SW14)	1

\*\*SA Water Executives are classified in the SA Water Single Classification Structure (denoted SW in brackets beside previous class).

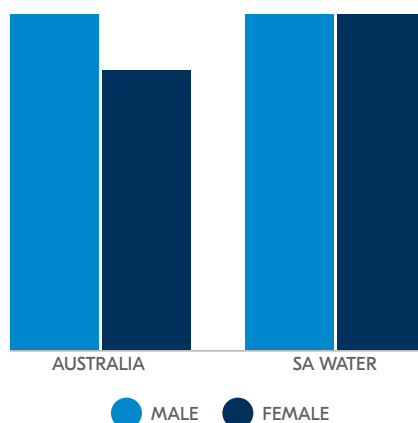
For further information, the [Office for the Public Sector](#) has a [data dashboard](#) for further information on the breakdown of executive gender, salary and tenure by agency.



### LEADING THE WAY WITH PAY EQUITY

The gender pay gap measures the difference between women’s and men’s average weekly full-time equivalent earnings and is expressed as a percentage of men’s earning.

AUSTRALIA’S GENDER PAY GAP FOR 2016 HAS BEEN CALCULATED AT 15.3% AT SA WATER, OUR PAY GAP FOR THE SAME PERIOD WAS 0%



Australia’s gender pay gap for 2016 has been calculated at 15.3 per cent, a gap of around \$250 a week, or two additional months of work. Across the South Australian Public Sector, the gap between men and women’s salaries at June 2016 was \$13 473 per annum in favour of men: a gap of 15 per cent.

At SA Water, our pay gap for the same period was zero per cent, down from two per cent in 2015 and one per cent in 2014.

Our achievement reflects the collective effort across the business to embrace diversity as well as our genuine belief that men and women benefit from an inclusive workplace, as do our customers.

### INCLUSION AND DIVERSITY ACTION PLAN

Our Inclusion and Diversity Action Plan, aligned with the South Australian Government, Disability Access and Inclusion Plans outlines that everyone is entitled to their rights and freedom without distinction of any kind and irrespective of any past, present or future disability.

Our actions are guided by six key outcomes:

1. inclusive and accessible communities
2. economic security and employment
3. rights, protection, justice and legislation
4. personal and community support
5. learning and skills
6. health and wellbeing.

We prohibit discrimination on the basis of disability with regard to all matters concerning all forms of employment, including conditions of recruitment, hiring and employment, continuance of employment, career advancement and safe and healthy working conditions.

In addition, we actively support our people with disabilities with regard to access and physical environment as well as have a comprehensive health and wellbeing program focussed on healthy living and supporting inclusion.

Through our graduate program we actively encourage women to apply and work in non-traditional roles as well as increasing the participation of people from Aboriginal and Torres Strait Islander backgrounds into the workforce.

To address attitudinal and environmental barriers that hinder full and effective participation, we are actively raising awareness and fostering respect for the rights and dignity of people with disabilities. We do this to combat stereotypes prejudices and harmful practices relating to persons with disabilities. We also challenge unconscious bias, and promote awareness of the capabilities and contributions of persons with disabilities.







# EFFECTIVE GOVERNANCE

## LEGISLATION

SA Water was established as a Public Corporation on 1 July 1995 under the *South Australian Water Corporation Act 1994*.

SA Water's operations are guided by legislation, the most significant include:

- *South Australian Water Corporation Act 1994*
- *Public Corporations Act 1993*
- *Water Industry Act 2012*
- *Safe Drinking Water Act 2011*
- *South Australian Public Health Act 2011*
- *Work, Health and Safety Act 2012*
- *Environment Protection Act 1993*
- *Natural Resources Management Act 2004*

## KEY REGULATORS

The Essential Services Commission of South Australia (ESCOSA) is the independent economic regulator for the water industry. It sets service standards and revenue levels for water and sewerage services provided by SA Water.

SA Health sets and monitors standards for drinking water quality and regulates recycled water use in the state.

The Office of the Technical Regulator sets standards and requirements for water and sewerage infrastructure, and the operation of that infrastructure, to ensure public safety.

The EPA sets standards for acceptable discharge from SA Water's used water treatment facilities and monitors SA Water's operations and activities to minimise impact on the environment.

DEWNR regulates access to natural water sources, protects water catchments and native vegetation and is the state body responsible for the River Murray as part of the Murray-Darling Basin.

## THE BOARD

Under the *South Australian Water Corporation Act 1994* the Board of directors governs SA Water on behalf of the State Government and reports to the Minister for Water and the River Murray.

The Board sets the strategic direction for SA Water and monitors the Corporation's performance, securing continual improvement and protecting the long-term viability of SA Water and government financial interests.

The following [Board members](#) were appointed by the Governor of South Australia:

- Lewis Owens (chair to 30 June 2017)
- Sybella Blencowe
- Sue Filby
- Ian Stirling
- Hon. Carolyn Pickles
- Hon. Karlene Maywald
- Roch Cheroux.

Operational management of SA Water is delegated by the Board through the Chief Executive to the Senior Leadership Team (SLT).

Pursuant to section 18 of the *South Australian Water Corporation Act 1994*, the Minister has delegated authority to the Board of SA Water to approve expenditure up to \$4 million on any one project.

Pursuant to section 12 of the *Public Corporations Act 1993*, a charter was prepared by the Minister and the Treasurer, in consultation with the Board. It guides the Board in seeking to balance community service with prudent commercial principles. The annual review of the charter was conducted with no changes made.

## DIRECTORS' INTERESTS AND BENEFITS

For 2016-17, no director had an interest in any contract or proposed contract with SA Water, other than contracts in the ordinary course of business.

No benefits were received by any director of SA Water by virtue of a contract that was made with SA Water, other than in normal course of business as set out in the financial statements.



## BOARD COMMITTEES

The SA Water Board established a Committee structure to assist the Board in meeting its responsibilities. Each committee has a charter that guides its functions and duties and is reviewed annually.

**Policy and Strategy Committee** – assists the Board's oversight of the long-term strategy of the Corporation to ensure that it remains a valuable, relevant and effective water and sewerage service provider with high levels of customer, community and stakeholder service and support.

**People and Culture Committee** – supports and assists the Board on matters associated with the planning, remuneration and culture of the Corporation's workforce, taking into account the corporation's strategic plan, government policy, relevant Board policies, business needs and regulatory requirements.

**Governance, Finance and Risk Committee** – supports and assists the Board in fulfilling its corporate governance and oversight responsibilities in relation to SA Water's financial planning and reporting, internal control processes, risk management systems, legal compliance, fraud and the internal and external audit functions.

### Summary of committee membership

NAME	POLICY AND STRATEGY	PEOPLE AND CULTURE	GOVERNANCE, FINANCE AND RISK
Lew Owens	●	●	
Sybella Blencowe			●
Sue Filby	●		
Ian Stirling	●		●
Hon. Carolyn Pickles		●	●
Hon. Karlene Maywald	●	●	
Roch Cheroux	●*	●*	●*

● Chair ● Attended \*ex officio

## BOARD ATTENDANCE

During 2016-17 directors attended meetings of the Board and the following Committees:

- Policy and Strategy Committee
- People and Culture Committee
- Governance, Finance and Risk Committee.

The number of meetings attended by each of the directors is shown in the following table.

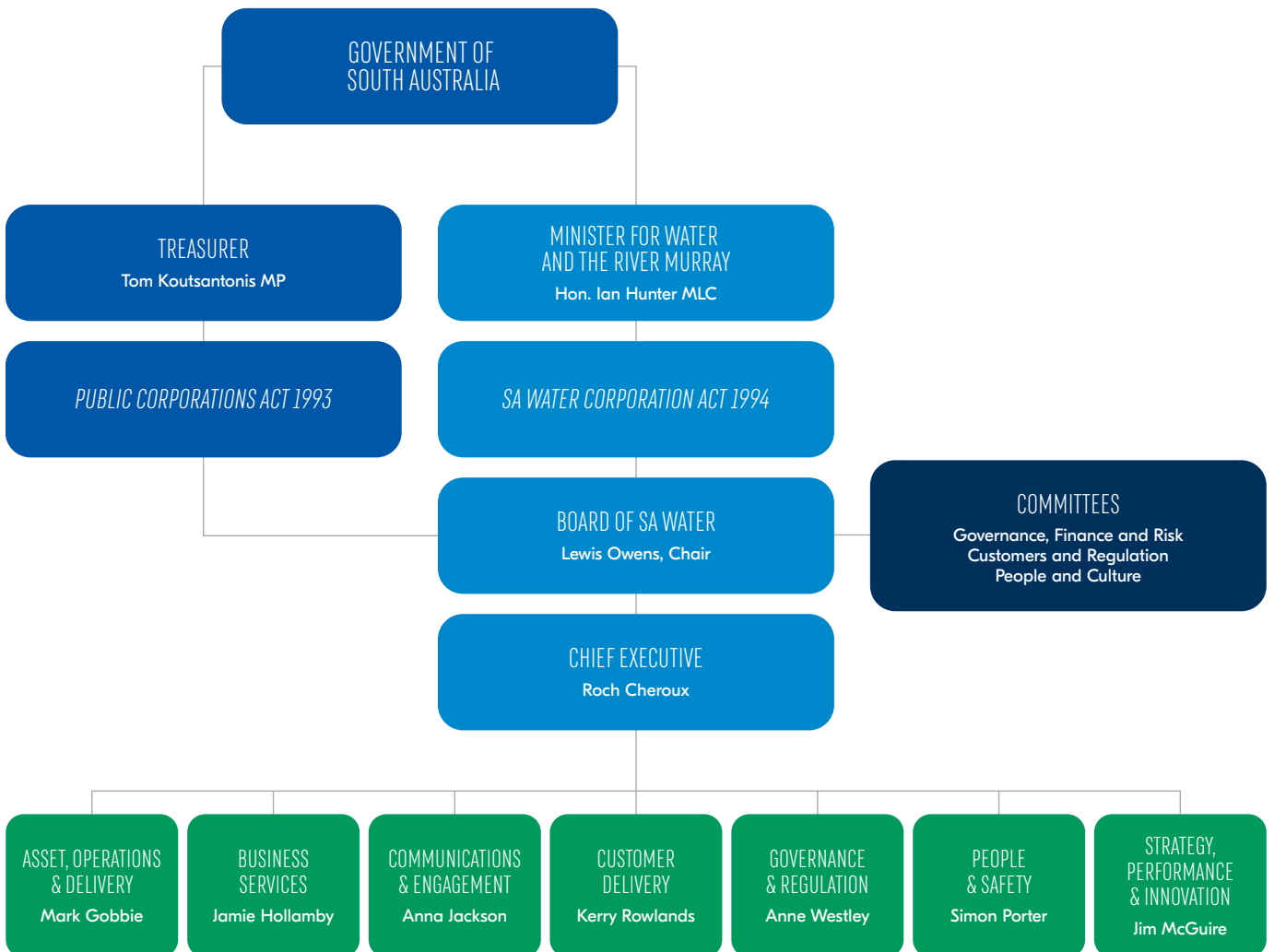
	BOARD		SPECIAL BOARD		PEOPLE AND CULTURE		POLICY AND STRATEGY		GOVERNANCE, FINANCE AND RISK	
	A	B	A	B	A	B	A	B	A	A
Sybella Blencowe	11	10	2	2					5	4
Carolyn Pickles	11	10	2	2	4	4			5	4
Sue Filby	11	10	2	2			5	5		
Lew Owens	11	10	2	2	4	4	5	5		
Karlene Maywald	11	9	2	1	4	4	5	5		
Ian Stirling	11	11	2	2			5	5	5	5
Roch Cheroux	11	11	2	2	4	4	5	5	5	5

A number eligible to attend B number attended



## ORGANISATIONAL STRUCTURE

As at 30 June 2017







# FINANCIAL PERFORMANCE

## FINANCIAL PERFORMANCE SUMMARY

The following is a brief summary of the overall financial position of the agency. The information is unaudited. Full audited financial statements for 2016-17 are attached to this report.

The preliminary year end Profit Before Tax result is \$188.5m which is \$5.4m higher than original budget. This result can be attributed to a number of factors including:

- lower estimated water sales of (13.8 GLs)/(\$51.8 million) offset by upside in prior year unbilled revenue of \$5.3 million
- other revenue considerations of \$24.1 million (includes recognition of funding for the Department of Planning, Transport and Infrastructure (DPTI) projects; water and wastewater rates; and gain on sale of water licenses and surplus renewable energy certificates)
- operating expenditure is \$21.1 million under budget, with favourable variances against contractors, electricity and treatment plant contracts
- depreciation and amortisation is also \$6.7 million lower due to timing of capital delivery and lower asset re-valuations.

## CONSULTANTS

The following is a summary of external consultants that have been engaged by SA Water, the nature of work undertaken and the total cost of the work undertaken.

CONSULTANT	AMOUNT	CLASSIFICATION	DESCRIPTION/PURPOSE
<b>CONSULTANCIES BELOW \$10,000 EACH</b>			
MERCER	2 249	Less than \$10 000	Workforce Planning and Training Advice
MWH AUSTRALIA PTY LTD	5 000	Less than \$10 000	Update of the Benefits Realisation Report related to North South Interconnection System Project
<b>CONSULTANCIES ABOVE \$10,000 EACH</b>			
YELLOWSCOPE PTY LTD	18 720	Between \$10 000 and \$50 000	Preparation of the Electronic Lodgement Implementation Plan
KPMG	24 160	Between \$10 000 and \$50 000	Workshop Services Information Services (IS) Delivery Model
YELLOWSCOPE PTY LTD	24 449	Between \$10 000 and \$50 000	Specialist Business Analytics
MARCHMENT HILL CONSULTING	24 834	Between \$10 000 and \$50 000	Civil Maintenance Benchmarking
YELLOWSCOPE PTY LTD	25 977	Between \$10 000 and \$50 000	Asset Information Change Management Planning and Implementation Support
KPMG	36 172	Between \$10 000 and \$50 000	EA Strategy Planning Workshop facilitation
SYMBIOSIS AUSTRALIA PTY LTD	43 978	Between \$10 000 and \$50 000	Asset Management headwork major pipeline structures Support
MERCER	48 391	Between \$10 000 and \$50 000	General remuneration advice-under SO7740
YELLOWSCOPE PTY LTD	275 535	Greater than \$50 000	Management of Asset (MoA) Project Management
<b>Grand Total</b>	<b>529 465</b>		

See also [tenders.sa.gov.au/tenders/index.do](https://tenders.sa.gov.au/tenders/index.do) for a list of all external consultancies, including nature of work and value. See also the Consolidated Financial Report of the Department of Treasury and Finance [treasury.sa.gov.au](https://treasury.sa.gov.au) for total value of consultancy contracts across the SA Public Sector.







# SUPPLEMENTARY REPORTING ITEMS

## FRAUD

There have been no instances of fraud detected over the last financial year.

## STRATEGIES TO CONTROL AND PREVENT FRAUD

We have a zero tolerance to fraud.

We perform a range of activities to control and prevent fraud. Key to these activities is:

- senior executive oversight of our Fraud and Corruption Control Policy by the General Manager, Governance and Regulation
- investigations of all allegations of fraud made under the policy
- data analytic reviews of all payroll, accounts payable and corporate purchasing transactions by Internal Audit
- regular communications and reminders to our staff of the need to report matters of concern and to act in accordance with SA Water's Values and Code of Conduct.

## WHISTLEBLOWERS DISCLOSURE

Pursuant to section 7 of the *Public Sector Act 2009*, we have appointed Responsible Officers for the purposes of the *Whistleblowers Protection Act 1993*. We did not receive any whistleblower related allegations during 2016-17.

## SUMMARY OF COMPLAINTS

We regard complaints as an opportunity to build and maintain customer confidence and trust as well as improve our customer experience performance and operation efficiency.

In 2016-17, we registered 2.46 complaints per 1 000 customers. This figure has increased when compared to the previous year of 2.25 complaints per 1 000 customers recorded in 2015-16. Our result is below the national benchmark (4.1), based on 2015-16 National Performance Reporting data for major utilities. We will continue to have a strong focus on reducing this over the coming year.

The most common complaint types continue to relate to water quality, repairs and maintenance of infrastructure in the metropolitan area, and high water consumption.

In 2016-17, 264\* complaints about SA Water were made to the Energy and Water Ombudsman of South Australia in a range of areas. High water use continued to top the list of concerns escalated as outlined below:

- overall Water Quality complaints increased due to two water quality events. Water Quality issues with the Happy Valley reservoir in November 2016 and the water quality team managing algal blooms in both Happy Valley and Myponga in January 2017
- although complaints to SA Water have increased overall, when compared to last year, Energy and Water Ombudsman of SA (EWOSA) complaints have reduced significantly from 420 complaints to 264\* which is an approximate decrease of 37 per cent.

The decrease in complaints brought to the Energy and Water Ombudsman of SA supports our focus to ensure customer's concerns are heard and acted upon when they first contact us.

Our front line teams such as the Customer Care Centre are encouraged to escalate interactions with customers where they believe the concern has not been resolved. In turn, if a Care Centre manager is not able to resolve the concerns, they will proactively refer the customer to the Customer Advocacy and Resolution team. This approach has allowed us to address customer concerns in house rather than customers feeling like they need to voice their concerns externally.

\*The number of Energy and Water Ombudsman of South Australia (EWOSA) complaints referred to SA Water may differ between SA Water and EWOSA due to variances in reporting practices.



## OPERATIONS FOUR YEAR COMPARISON DATA 2013-17

	2013-14	2014-15	2015-16	2016-17
<b>STATEWIDE</b>				
<b>POPULATION SERVED</b>				
Estimated population supplied water supply statewide	1 605 000	1 664 000	1 684 000	1 692 000
Estimated population supplied used water services statewide	1 281 000	1 309 000	1 324 000	1 330 000
Accounts billed	745 216	751 605	759 323	766 723
<b>WATER CONSUMPTION</b>				
Total volume delivered (ML)	213 926	218 979	227 830	202 789
Highest daily consumption recorded in 24 hours to 8am (ML)	825	715	823.4	667
Average residential consumption per household (kL)	178	179	199.1	165.5
<b>WATER SOURCES</b>				
Total water (ML)	213 926	218 979	227 830	202 789
% provided by River Murray	36.2	50.2	83.1	33.3
% provided by surface water	29.7	34.0	8.0	58.9
% provided by ground water	5.6	5.4	5.5	5.8
% provided by sea water	28.5	10.4	3.4	2.1
<b>MAJOR PIPELINE LENGTHS (KM)</b>				
Murray Bridge to Onkaparinga	50	50	50	50
Morgan/Whyalla no 1 via Port Augusta	358	358	358	358
Morgan/Whyalla no 2 undersea from Baroota	283	283	286	286
Mannum to Adelaide	87	87	87	87
Swan Reach/Paskeville	189	189	189	189
Tailem Bend/Keith	132	132	132	132
Lincoln Gap/Kimba	970	970	970	970
<b>Total length of water mains across South Australia</b>	<b>26 773</b>	<b>26 836</b>	<b>26 899</b>	<b>27 024</b>
<b>Total length of sewers across South Australia</b>	<b>8 807</b>	<b>8 853</b>	<b>8 901</b>	<b>8 940</b>
<b>PERFORMANCE</b>				
Percentage of telephone calls within 30 seconds	88%	85%	85%	85%
Percentage of written complaints responded to within target timeframes	91%	98%	95%	99%
Percentage of water connections constructed within target timeframes	95%	91%	93%	97%
Percentage of sewer connections constructed within target timeframes	95%	86%	90%	98%
Percentage of trade waste applications processed within 10 business days	99%	99%	100%	99%
Number of planned water service interruptions	298	297	286	447
Number of unplanned water service interruptions	3 004	3 380	3 695	3 220
Number of customers with three or more unplanned water supply interruptions per year	1 782	2 211	3 044	3 218



	2013-14	2014-15	2015-16	2016-17
Percentage of water quality complaints responded to in target timeframes	96%	98%	98%	98%
Percentage of water network breaks and leaks attended within target timeframes	98%	99%	99%	99%
Percentage of water network service restorations performed within target timeframes	99%	98%	97%	99%
Number of planned sewerage service interruptions	1	1	1	0
Number of unplanned sewerage service interruptions	3 953	4 079	2 984	3 333
Percentage of sewerage network service restorations performed within target timeframes	96%	95%	94%	96%
Percentage of sewerage network overflows attended within target timeframes	98%	99%	99%	99%
Percentage of sewerage network overflow clean-ups performed within target timeframes	98%	98%	97%	97%

#### METROPOLITAN ADELAIDE

##### WATER SUPPLY

Number of water treatment plants	6	6	6	6
Volume delivered (ML)	141 789	145 358	152 033	135 854
Average daily volume delivered (ML)	388	398	395	372
Average daily per capita consumption including commercial industrial and residential (L)	331	337	331	309.5
Average volume water delivered for past five years (ML)	138 495	139 616	144 223	139 616
<b>Estimated population served</b>	<b>1 173 000</b>	<b>1 180 000</b>	<b>1 194 000</b>	<b>1 202 000</b>
Length of mains (km)	9 190	9 223	9 266	9 291

##### WATER SUPPLY AND QUALITY PERFORMANCE

Number of planned water service interruptions	277	259	256	390
Number of unplanned water service interruptions	1 881	2 038	2 385	2 126
Number of customers with three or more unplanned water supply interruptions per year	1 120	1 569	2 363	1 802
Percentage of water network breaks and leaks attended within target timeframes	98%	99%	99%	99%
Percentage of water network service restorations performed within target timeframes	99%	98%	97%	98%
Percentage of water quality complaints responded to in target timeframes	95%	97%	98%	97%
% of samples free from <i>E. coli</i>	99.98	100	99.97	99.91
Total expenses per customer (\$)	413	358	369	341

##### USED WATER

Number of wastewater treatment plants	6	5	6	6
Estimated population served	1 113 000	1 120 000	1 133 000	1 139 000
Length of sewers (km)	7 337	7 375	7 419	7 437
Length of recycled water supply main (km)	188	218	194	223

##### SEWERAGE SERVICES PERFORMANCE

Number of planned sewerage service interruptions	1	1	1	0
Number of unplanned sewerage service interruptions	3 838	3 982	2 936	3 257



	2013-14	2014-15	2015-16	2016-17
Percentage of sewerage network service restorations performed within target timeframes	95%	94%	94%	95%
Percentage of sewerage network overflows attended within target timeframes	98%	99%	99%	99%
Percentage of sewerage network overflow clean-ups performed within target timeframes	98%	98%	97%	97%
Percentage reclaimed water reused	28.4	33.7	33.4	21.4
Total expenses per customer (\$)	187	195	207	203

#### NON-METROPOLITAN

##### WATER SUPPLY

Number of water treatment plants	35	37	37	37
Volume delivered (ML)	72 137	73 621	75 797	66 935
Average volume water delivered for past five years (ML)	73 183	72 622	74 231	72 614
<b>Estimated population served</b>	<b>432 000</b>	<b>484 000</b>	<b>490 000</b>	<b>490 000</b>
Length of mains (km)	17 582	17 613	17 633	17 733

##### WATER SUPPLY AND QUALITY PERFORMANCE

Number of planned water service interruptions	21	38	30	57
Number of unplanned water service interruptions	1 123	1 342	1 310	1 094
Number of customers with three or more unplanned water supply interruptions per year	662	642	681	1 416
Percentage of water quality complaints responded to in target timeframes	100%	100%	100%	100%
Percentage of water network breaks and leaks attended within target timeframes	99%	99%	100%	99%
Percentage of water network service restorations performed within target timeframes	99%	98%	99%	99%
% of samples free from <i>E. coli</i>	100	100	99.95	99.95
Total expenses per customer (\$)	686	663	723	654

##### USED WATER

Number of wastewater treatment plants	19	19	19	20
Estimated population served	168 000	189 000	191 000	191 000
Length of sewers (km)	1 470	1 478	1 482	1 503
Length of recycled water supply main (km)*	24	24	24	25

##### SEWERAGE SERVICES PERFORMANCE

Number of planned sewerage service interruptions	0	0	0	0
Number of unplanned sewerage service interruptions	115	97	48	76
Percentage of sewerage network service restorations performed within target timeframes	100%	100%	100%	100%
Percentage of sewerage network overflows attended within target timeframes	100%	99%	100%	100%
Percentage of sewerage network overflow clean-ups performed within target timeframes	99%	100%	100%	99%
Percentage reclaimed water reused	21.8	22.1	25.8	19.7
Total expenses per customer (\$)	369	400	415	382





